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Notice of Allowability

Application No.

09/870,314

Examiner

James K. Trujillo

Applicant(s)

LEFEVRE ET AL.

Art Unit

2116

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to communications filed 29 May 2001.
2. ☒ The allowed claim(s) is/are 1-22.
3. ☒ The drawings filed on 29 May 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☒ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☒ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

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DETAILED ACTION

1. The office acknowledges the receipt of the following and placed of record in the file:
Submission of Application on 5/29/01.

Allowable Subject Matter

2. Claims 1-22 are allowed.
3. The application having been allowed, formal drawings are required in response to this Office Action.

REASONS FOR ALLOWANCE

4. The following is an examiner's statement of reasons for allowance:

Johnson et al., U.S. Patent 6,571,343 (hereinafter "Johnson") teach a system and method for a portable comprising calculating and storing an updated average terminal voltage for said power source by utilizing at least one periodic terminal voltage measurement [col. 3 lines 54-56]. Johnson also teaches comparing the updated average terminal voltage with at least one operational terminal voltage limit and terminating at least one system operation function when said average terminal voltage is outside said operation terminal voltage limit (enter shutdown) [figures 1, 2 and 4 and corresponding text text].

Tate et al., U.S. Patent 6,708,280 (hereinafter "Tate") teach a method of power source management for a portable device comprising the steps of calculating and storing an updated average terminal voltage for said power source by utilizing at least one periodic terminal voltage measurement (step 310) [figure 3 and col. 4 lines 62-63]. Tate teaches comparing said updated

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average terminal voltage with at least one operational terminal voltage limit (operational level) [col. 4 lines 63-64]. Tate further teaches terminating at least one system operating function (input and output mechanisms are switched to stop drawing power from battery module) when said average terminal voltage is outside said operational terminal voltage limit [col. 4 line 65 through col. 5 line 7].

Ryu, U.S. Patent 5,978,921 teaches a system and method of power source management for a portable device that calculates and stores an updated average terminal voltage for said power source by utilizing at least a terminal voltage measurement [figures 7A, 7B and col. 6 lines 35-62]. Ryu also teaches comparing the updated average terminal voltage with at least one operational terminal voltage limit and terminating at least one system operating function when said average terminal voltage is outside said operational terminal voltage limit (perform hibernation function) [figures 7A, 7B and col. 6 lines 35-62].

Katoh et al, European Patent Application Publication 0560510 A1 (hereinafter Katoh) teach a method and apparatus that calculates and stores an updated average terminal voltage (V) for said power source by utilizing at least one periodic terminal voltage [S2 figure 4 and corresponding text]. Katoh further teaches comparing said updated average terminal voltage with at least one operational terminal voltage limit [S26 figure 4 and corresponding text]. Katoh finally teaches terminating at least one system operating function when said average terminal voltage is outside said operational terminal voltage limit (transiting to suspend mode) [S38 figure 4 and corresponding text].

Fakruddin et al., U.S. Patent 5,027,294 (hereinafter "Fakruddin") teach a method of power source management for a portable device comprising the steps calculating and storing an

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updated average terminal voltage for said power source by utilizing at least one periodic terminal voltage measurement (to calculate slope information) [col. 12 lines 9-15 and figure 7b].

Fakruddin thereafter uses the slope information for power source management.

Atkinson, U.S. Patent 6,691,236 teaches a system having a power source management comprising calculating an updated average terminal voltage for said power source by utilizing terminal voltage measurements. Atkinson further teaches comparing updated average terminal voltage with at least one operational terminal voltage limit (low battery condition). Atkinson also teaches terminating at least one system operating function when said terminal voltage is outside said operation terminal voltage limit.

Applicant's admitted prior art (hereinafter "AAPA") teach calculating and storing an updated an updated average terminal voltage for said power source by utilizing at least one periodic terminal voltage measurement (continuous monitoring of the source terminal voltage) [page 4 lines 7-11]. AAPA also teaches comparing updated average terminal voltage with at least one operations terminal voltage limit (reacting to terminal voltage fluctuations) [page 4 lines 8-11].

Sakai, U.S. Patent 6,266,776 teaches a power source management apparatus that calculates and stores an updated average terminal voltage for said power source by utilizing a terminal voltage measurement and compares the updated average terminal voltage with at least one operational terminal voltage limit (low battery state) and terminates at least one operating function (shutdown) in a specific mode when average terminal voltage is outside an operational terminal voltage limit [col. 1 lines 23-58, col. 2 lines 1-6 and col. 6 line 64 et seq.].

Takahashi et al., U.S. Patent 6,150,823 (hereinafter "Takahashi") teaches a power source management method comprising calculating and storing an updated average terminal voltage for said power source by utilizing at least one periodic terminal voltage measurement (S102 and S104) [figure 10].

IBM Technical Disclosure Bulletin, NN86112641 teaches a system and method that calculates and stores an updated average terminal voltage by utilizing at least one periodic terminal voltage measurement and compares said updated average terminal voltage with at least one operational terminal voltage limit [first and third paragraphs].

The prior art of record does not teach or suggest individually or in combination detecting a momentary fluctuation present in said periodic terminal voltage measurement and excluding said measurement from said updated average terminal voltage.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

EXAMINER'S AMENDMENT

5. An examiner's amendment to the record appears below. Should changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

Pursuant to MPEP 606.01, the title has been changed to read:

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-- METHOD AND SYSTEM TO AVOID BATTERY SAG BY DETECTING MOMENTARY FLUCTUATION IN A PERIODIC TERMINAL VOLTAGE MEASUREMENT AND EXCLUDING THE MEASUREMENT FROM UPDATED AVERAGE TERMINAL VOLTAGE --

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James K. Trujillo whose telephone number is (703) 308-6291. The examiner can normally be reached on M-F (7:30 am - 5:00 pm) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Browne can be reached on (703)308-1159. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James Trujillo
July 26, 2004


LYNNE H. BROWNE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600- 2100